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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/663,002	09/15/2000	Huan-Yu Su	10508.18	1968

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EXAMINER

OPSASNICK, MICHAEL N

ART UNIT	PAPER NUMBER
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2655

DATE MAILED: 03/11/2004

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/663,002

Applicant(s)

SU ET AL.

Examiner

Michael N. Opsasnick

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 1/12/2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34, 37, 40-43 and 46 is/are rejected.
- 7) ☒ Claim(s) 35, 36, 38, 39, 44, 45, 47 and 48 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Allowable Subject Matter

1. Claims 35,36,38,39,44,45,47, and 48 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-34,37,40-43 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jacobs et al (5778338) in view of Gersho et al (6233550).

As per claims 1,13,17, and 20, Jacobs et al (5778338) teaches a speech encoding system detecting a transition during speech (col. 14 lines 52-61); an encoder performing an encoding scheme to preprocess the signal based on a voicing of the signal (as varying the encoding scheme based on the degree of voice of the signal -- col. 3 lines 1-11; col.

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14 lines 6-51); a selector for choosing a second encoding scheme (as selecting different encoding based on encoding rates – col. 14 lines 24-61).

Jacobs et al (5778338) does not explicitly teach forming all of the differing encoding schemes back to a single coding rate, however, Gersho et al (6233550) teaches differing encoders (Fig. 4a, unvoiced, voiced, and transition) all conforming to a single bit rate (Fig. 4a, the output multiplex is designed for a 4bps coding rate). Therefore, it would have been obvious to one of ordinary skill in the art of encoding to modify the teachings of Jacobs et al (5778338) with a constant coding rate output because it would advantageously provide a hybrid coding scheme wherein the coding savings would occur on each individual encoder, yet the output rate be uniform (Gersho et al (6233550), col. 27 lines 14-38).

As per claims 2-4,14,15,18,32, and 41, Jacobs et al (5778338) teaches determining the speech characteristic between voiced, unvoiced, or noise (col. 14 lines 52-61).

As per claim 5,6, and 16, Jacobs et al (5778338) teaches perceptual filtering and a pitch preprocessing module determining a target signal for time warping (as input speech being modified by the closed loop and open loop format residual equations -- fig. 14, subblock 570-576; thru the pitch synth filter (fig. 14, subblock 552; figs. 16,18, and 19)); and pitch tracking (as pitch preprocessing and calculating the varying pitch lag -- col. 8 lines 26-46).

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As per claims 7,31,40, Jacobs et al (5778338) teaches fixed codebook (col. 38 lines 1-24), adapted codebook use for storing residual samples of LPC coefficients (col. 30 lines 28-36)

As per claims 8-10, 19,21-23,26-28, Jacobs et al (5778338) teaches bit allocation dependent upon the various thresholds, wherein the bit allocation is in the form of a quadratic ratio (col. 14 lines 15-16; col. 16 lines 49-67).

As per claims 11,24,29, Jacobs et al (5778338) teaches full rate coding determining a voicing level, that is, voice and/or noise (col. 14 lines 15-61).

As per claims 12,25,30,34,37,43,46, Jacobs et al (5778338) teaches selecting multiple encoding rates based on bit rate (col. 7 line 53 – col. 8 line 41 -- note the differing rates).

As per claims 31 and 40, Jacobs et al (5778338) teaches receiving a speech frame for encoding (as input speech, Fig. 8), classifying the speech frame as voiced if the speech includes a voicing component (col. 3 lines 1-9), designating the speech frame as stationary or non-stationary if the speech frame is as such (as determining, not only two levels of speech, but multiple levels of speech, or the degree of voicing, --col. 14 lines 6-51); and allocating a lesser number of bits for the voice speech frame than for the non-stationary voice speech frame (as bit allocation dependent upon various thresholds -- col.

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14 lines 15-16, col. 16 lines 49-67, wherein the voiced frame receives less number of bits).

As per claims 33 and 42, Jacobs et al (5778338) teaches outputting/transmitting data (fig. 5).

Response to Arguments

4. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872 9314,

(for informal or draft communications, please label "PROPOSED" or "DRAFT")

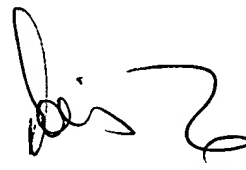
Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Opsasnick, telephone number (703)305-4089, who is available Tuesday-Thursday, 9AM-4PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Doris To, can be reached at (703)305-4827. The facsimile phone number for this group is (703)872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 2600 receptionist whose telephone number is (703) 305-4750, the 2600 Customer Service telephone number is (703) 306-0377.

mno
3/6/2004


DORIS H. TO 3/8/04
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600